Abstract of the Disclosure

A vibration absorber for a vehicle steering system that suppresses torsional vibrations that would otherwise be felt by a driver holding the steering wheel. At least two energy absorbing units are mounted to a steering shaft at locations equidistant from the shaft's axis of rotation. The energy absorbing units may be attached to the spokes of the steering wheel, and are preferably located at diametrically opposite positions on the steering wheel so that they do not adversely affect the balance of the wheel as it is turned. Each energy absorbing unit comprises a mass supported for reciprocal movement along a path of movement perpendicular to a radius of the steering shaft and at least one kinetic energy absorption device acting on the mass along the path of movement. A case houses the mass and kinetic energy absorption device, and a rod is supported at either end by the case and passes through a hole in the mass to guide the mass along the path of movement. The kinetic energy absorption device preferably comprises two coil springs, one located on either side of the mass and encircling the rod. Secondary springs are disposed on opposite sides of the mass along the path of movement and are spaced from the mass by a distance such that the mass contacts the secondary springs when the mass has moved a predetermined distance from a neutral position. The secondary springs serve as travel stops and apply a progressing centering force to the mass when it nears the limits of its movement, thereby producing a dual-rate spring effect to improve the vibration absorbing performance of the absorber units.